

# SYNTHESIS AND CHARACTERIZATION OF PSORALEN ANALOGUES BASED ON DIBENZOFURAN

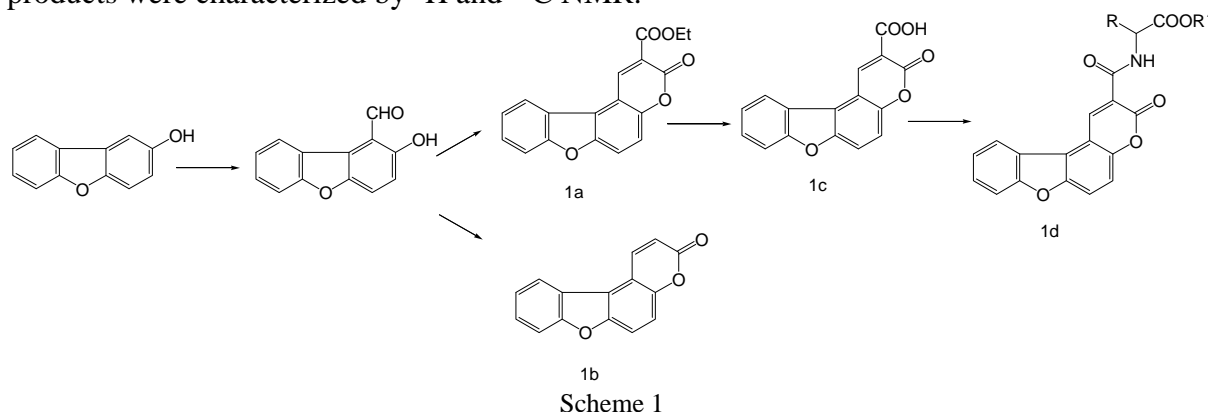
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Psoralens are natural products known as photosensitizers drugs that were used for many years in the treatment of skin diseases such as lupus and psoriasis.<sup>1</sup> It was also reported that they can be used in cancer (cutaneous malignant melanoma)<sup>2</sup> and T cell lymphoma<sup>1</sup> treatment as well as in the prevention of rejection of organ transplants,<sup>1</sup> in the treatment of autoimmune diseases<sup>1</sup> and viral diseases such as HIV-1.

Our group has been involved in the synthesis of psoralen analogues based on dibenzofuran<sup>3</sup>, on carbazole and xantone and some compounds showed in vitro antitumoral activity (MCF-7, NCI-H460, SF-268).<sup>4,5</sup>

Here we report the synthesis of 3*H*-benzofuro[3,2-*f*]chromen-3-ones **1**. For compound **1a** we started from 2-hydroxydibenzofuran which after Reimer-Tiemann formylation was condensed with diethyl malonate to build the pyranone ring. To synthesize **1b** (R = H) the method of Harayama and Ishii was used where the cinnamate was obtained by the Wittig reaction followed by ring closure (scheme 1). Compound **1c** was obtained by basic hydrolysis of **1a**. The latter derivative was further coupled to amino acids to give products **1d**. The final products were characterized by <sup>1</sup>H and <sup>13</sup>C NMR.



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